

APPENDIX E

Heritage Resources Risk Factor Analysis

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APPENDIX E

Heritage Resources Risk Factor Analysis

Introduction

This appendix displays a risk factor analysis by Recreation Analysis Area (RAA) and supplements the effects discussed in **Chapter 3** for heritage resources.

Environmental Consequences

01 Sheep Creek – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Heritage resources in this RAA are characterized by the remnants of numerous heritage sites. These sites are remote and difficult to monitor. Current risk to these sites is high.

The direct effects to sites would continue to be those associated with site theft. Heritage sites in the Sheep Creek drainage have been the target of site theft in the past. Heritage resources in this RAA would continue to be the subject of site theft activities in the next planning cycle.

Indirect effects to these resources are those associated with natural agents such as wildfire and erosion processes. Other indirect effects are associated with recreation use of the area. In some cases, heritage sites are also popular, dispersed campsites. Concentrated use normally associated with dispersed camps would potentially result in significant surface disturbance. As the surface is degraded, heritage deposits would be deflated, resulting in compression, mixing, and/or obliteration of site integrity. When pack and saddle stock are involved, the risk would increased dramatically.

Cumulative Effects

Heritage resources in the Sheep Creek RAA have been significantly impacted by past site theft activities. Natural processes and human land use activities associated with recreation use and past management activities, both private and public, have had an impact on the resource. These effects are ongoing today and would continue into

the future. There is a high probability that increased recreation use over the next decade would affect heritage resources to some degree.

Alternatives A, E-modified, and W contain management directions which would, at the very least, make the Idaho portion of the HCNRA a more attractive place to visit in adjacent RAAs. These include new or upgraded campgrounds, trailheads, trail construction, interpretation, etc. While these projects would have no direct impact in RAA 01, they probably would result in increased use in areas adjacent to Sheep Creek. At least some of this increased use would extend into RAA 01. Alternatives A, E-modified, and W have greatest potential for increased adverse effects to heritage resources in RAA 01. However, site protection measures, e.g., fencing, hardened sites, interpretation, would also be undertaken during development of new or upgraded recreation facilities. These protective measures would balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation. **Alternative N** would emphasize minimal access to this area and would provide a lower risk to sites.

Alternative B contains fewer management directions that would result in new or upgraded facilities and or improved access. Cumulative effects associated with Alternative B would be less than those of **Alternatives A, E-modified, and W**.

Under **Alternative B**, recreation activities in RAA 01 would remain at or near current levels. Current levels and types of impacts would continue. Impacts would be associated with natural events such as erosion and fire, and effects associated with existing recreation use levels. Direct and indirect effects associated with increased use would probably occur regardless of improved access or facilities.

02 Dry Diggins, 03 Sheep Lake, 04 Seven Devils, 05 Baldy Lake, 06 East Face, and 09 Lakes Basin – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

RAAs 02 through 06 and 09, are located in the Seven Devils portion of the Hells Canyon Wilderness. No systematic heritage surveys have been conducted in these RAAs and only four sites have been documented. Systematic inventories would reveal additional sites.

None of the alternatives contain management directions that would directly impact known or undiscovered heritage sites. Current, ongoing recreation and management activities pose little risk to heritage sites in these RAAs.

Alternatives A, E-modified, and W contain management directions that would potentially result in increased use over time. These include improved access, upgraded facilities, and recreation opportunities. These RAAs contain primary wilderness portals. Improved access and facilities at primary portals would likely result in increased use in adjacent wilderness RAAs. However, site protection measures, e.g., fencing, hardened sites, interpretation, would also be undertaken during development of new or upgraded recreation facilities. These protective measures would balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation. **Alternative N** would emphasize minimal access to this area and would provide a lower risk to sites.

Cumulative Effects

Increased use would have some impact on undocumented or undiscovered heritage resources. Impacts would include vandalism and/or artifact collection. However, since no systematic inventory or monitoring has occurred, measuring effects would be difficult.

Alternatives B, E-modified, W and **N** would decommission Dry Diggins Lookout and rehabilitate the site. This action would require determining the eligibility of the site for the National Register of Historic Places.

07 Horse Heaven – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	2	1	2	2	1
Removal or alteration of structural elements	1	2	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	5	5	5	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Horse Heaven RAA contains several significant heritage sites. These heritage sites have been subjected to heavy artifact collection in the past. The potential for further degradation to these sites from continued artifact collection is very high.

Under **Alternatives A, E-modified, and W**, the Black Lake Campground in the adjacent RAA 10 would be replaced, resulting in possible direct impacts from the construction and indirect impacts from increased use. This would probably result in increased visitation to these sites, thereby increasing the potential for artifact collection/theft. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the indirect effects to heritage sites of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

These heritage sites are very fragile. Even well-meaning visitors walk through the sites, further degrading the fragile remnants. This type of indirect impact would be increased as a result of increased use.

Alternative B and **N** would have little or no effect on use levels in and around these heritage sites. Recreation user impacts would continue at or near present levels. Any increase in use in the next decade would likely be the result of increasing demands for limited recreation opportunities rather than any management directions contained in Alternative B or N.

These heritage sites are fragile and perishable. Fire and other elements have taken their toll. Excluding cultural impacts, these sites would continue to be degraded by natural elements such as fire, snow, and ice.

Cumulative Effects

Heritage resources have been the subject of intensive artifact collection for many years. Artifact collection and/or site theft would continue to impact this resource and well-meaning recreationists would continue to degrade the sites by their presence. **Alternatives A, E-modified, and W** would hasten these impacts by increasing visitation over the current situation. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Excluding the current planning effort, some increase in visitation is likely as competition for limited recreation opportunities expands.

Natural elements, particularly heavy snow loads and wildfire, have been the most significant factor in the degradation of these resources. Natural elements would continue to be the most significant impact. None of the alternatives would affect the rate at which the ruins deteriorate as a result of natural processes. Under the right circumstances, a wildfire would all but obliterate one or both of these sites.

08 Granite Creek – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	2	2	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	2	2	1
Total					
Total Risk Factor Score	5	5	6	6	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Heritage resources in this RAA are characterized by the remnants of numerous, significant, heritage sites. These sites are remote and difficult to monitor.

Direct effects to these sites would continue to be those associated with site theft. Heritage sites in the Granite Creek drainage have been the target of site theft in the past. Heritage resources in this RAA may be the subject of site theft activities in the next planning cycle. The current risk to these sites is high.

The indirect effects to these resources are those associated with natural agents such as wildfire and erosion processes. Other indirect effects are associated with recreation use of the area. In some cases, heritage sites are also popular dispersed campsites. Concentrated use normally associated with dispersed campsites may results in significant surface disturbance. As the surface is degraded, cultural deposits are deflated, resulting in compression, mixing, and/or obliteration of site integrity. When pack and saddle stock are involved, the risk is increased dramatically.

Cumulative Effects

Heritage resources have been significantly impacted by past site theft activities. Natural processes and human land use activities associated with recreation use and past management activities, both private and public, have had an impact on the resource. Intensive recreation activities are ongoing today and would continue into the future. A high probability exists that recreation use would increase over the next decade and that increased use would compound the effect to heritage resources to some degree.

Alternatives A, E-modified, and W contain management directions that would make the Idaho portion of the HCNRA a more attractive place to visit. These include new or upgraded campgrounds, trailheads, trail construction, interpretation, etc. Alternatives A, E-modified, and W improve or reconstruct the trail from Granite Creek to Brush Creek. **Alternative B** would improve the trail from Butler Bar to Granite Creek. While these projects would have no direct impact in RAA 08, that they would result in increased use in the Granite Creek area is a high probability.

Alternative N accomplishes the least in terms of improved access or new or upgraded facilities. It has the least potential to affect heritage resources either directly or indirectly. It is followed by **Alternative B** that contains few management directions, which would lead to increased access and or use. Under **Alternative B**, recreation activities in RAA 08 would remain at or near current levels. Current levels and types of impacts would continue.

They would be associated with natural agents such as erosion and fire, and effects associated with existing recreation use levels. Those direct and indirect effects associated with increased use would probably occur regardless of improved access or facilities.

Alternatives A, E-modified, and W contain management directions that have the greatest potential for increased, adverse effects to heritage resources in RAA 08.

10 Black Lake – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	1	3	3	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	6	4	6	6	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

The Black Lake area is the site of significant heritage activity. The Lake is accessible by road. Under **Alternatives A, E-modified, and W**, the developed site at Black Lake Campground would be replaced (Level B) and moved further from the lake. Under Alternative N the Black Lake Campground would be decommissioned and a trailhead relocated near the closure of the road to Black Lake. The historic lake shore would contain buried, cultural deposits. Replacement of the facilities in the same general location would impact unidentified heritage resources. Removal of the campground would have minimal potential to impact unidentified heritage resources. However, the eligibility of the campground itself for inclusion in the National Register of Historic Places would have to be considered. Construction activities would require a cultural resource survey under section 106 of the *National Historic Preservation Act*.

The replacement of facilities at Black Lake would make the area more attractive to recreation users resulting in increased recreation use. The area is relatively rich in heritage artifacts. An increase in use would result in increased collection of artifacts from the area. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Risk to heritage resources from artifact collection is high. Potential risk to undiscovered heritage resources from campground construction is medium.

Cumulative Effects

Heritage resources in the Black Lake area have been significantly degraded by decades of artifact collection and natural processes such as fire and heavy snow. Under **Alternatives A, E-modified, and W**, artifact collection would be accelerated. Buried and unrecorded heritage deposits would be impacted by campground relocation and construction. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Alternative B would maintain existing conditions and the risk to heritage resources would be less than under **Alternatives A, E-modified, and W**.

Alternative N would close the road to Black Lake at the HCNRA boundary. This would lessen the potential impact to heritage sites from site theft and damage.

11 Windy Saddle - Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	1	3	3	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	3	1	1	1	1
Total					
Total Risk Factor Score	8	4	6	6	4
Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High					

Under **Alternative A**, the road to Heavens Gate would be upgraded to a standard similar to that of the Pittsburgh Landing Road. **Alternative E-modified** and **W** would make only minor improvements in the road. Road reconstruction, particularly to the level called for in **Alternative A**, would potentially impact undiscovered heritage resources. A road built to this standard would lead to increased use.

Under **Alternative A**, a Development Level 3 campground, including an interpretive facility, would be constructed near the Seven Devils Guard Station. Campground construction would alter the physical environment and impact undiscovered heritage resources and would require a section 106 survey.

The Seven Devils Guard Station is an historic building and is potentially eligible for the National Register of Historic Places. The construction of a campground in the immediate vicinity of the guard station would have an adverse effect on a potentially eligible property.

Alternatives B, E-modified and **W** would provide for a facility upgrade to Development Level 2 of the existing Seven Devils Guard Station. Depending on the manner in which it is executed, this particular management direction would constitute an adverse effect to a potentially eligible property and require documentation of an Historic American Buildings Survey.

Alternative N would maintain the existing campground facilities at the current capacity.

Cumulative Effects

Alternatives A, E-modified, and **W** would improve access to Windy Saddle. This would result in some level of increased use in RAA 11 and the adjacent RAAs, resulting in increased impacts to undocumented heritage resources in, and adjacent to, RAA 11. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Alternatives A, E-modified, and **W** have the potential to directly affect undiscovered heritage resources through road and campground construction. Alternatives A, E-modified, and W have the potential to indirectly affect the Seven Devils Guard Station by constructing a campground in the immediate vicinity of this historic site. Alternatives B, E-modified, and W have the potential to directly affect the historic Seven Devils Guard Station by upgrading the facility. The Seven Devils Guard Station is the only documented heritage resource in this RAA.

Alternative N would have the least potential to affect undiscovered resources by maintaining the existing campground facilities at the current capacity.

12 East Rim Loops – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	1	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	6	4	5	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Under **Alternative A**, the Pittsburg Saddle to Triangle Mountain Road, the Cow Creek Saddle to Low Saddle Road, and the Sawpit Saddle Road would be reconstructed to a standard similar to that of the Deer Creek Road. Under **Alternatives E-modified** and **W**, roads would be upgraded, but to a lesser standard than under **Alternative A**, but the road to Triangle Mountain would not be constructed.

Alternative A would construct three viewpoints and a Development Level 3 campground at Low Saddle. Alternatives E-modified and W also construct two viewpoints; however, the developments at Low Saddle would be reduced from a Development Level 3 campground to Development Level 2 campsites and a trailhead.

Alternatives B and **N** would maintain existing opportunities and access and would have the least effect on undiscovered resources.

Cumulative Effects

No heritage resources have been documented in the East Rim Loop RAA. Therefore, the probability that major ground-disturbing projects would impact significant heritage resources is high.

13 Kirkwood – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	2	2	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	5	5	5	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

The Kirkwood drainage contains significant heritage resources. These sites receive large numbers of visitors, particularly during summer months.

None of the alternatives contain management directions which would adversely affect heritage resources.

Cumulative Effects

Heritage resources in this RAA have been significantly impacted by past vandalism and site theft activities. These sites which receive intensive visitation are relatively remote and difficult to monitor. Primary access is from the Kirkwood Historic Ranch, however, some visitation comes from the Kirkwood Road.

Current levels of recreation use are resulting in impacts to heritage resources. These impacts consist of trailing, soil compaction, and erosion of heritage deposits. The majority of the impacts are inadvertent. Some relatively minor, intentional excavation is also taking place. Over the planning period, these impacts would have a significant effect on important heritage resources.

Alternative N would permanently close Kirkwood Road to all vehicles. This would potentially reduce impacts, since anyone intent on looting the village site would likely access the site via this road. **Alternatives A, B, E-modified and W** would close Kirkwood Road on a seasonal basis. While this would provide a higher degree of protection during the periods the road is closed, sites would still be susceptible to impacts when the road was open.

14 Pittsburg – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	2	2	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	5	5	5	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

The Kurry Creek drainage and the portion of the Pittsburg Landing area outside the wild and scenic river corridor contain significant heritage resources. Heritage resources along Deer Creek Road and Kurry Creek are at risk from road management activities, recreation user activities, and range management activities. Since road construction activities associated with recreation development are completed, the focus of road management activities in the Kurry Creek and Pittsburg Landing area would be maintenance. Risk to heritage resources from road maintenance activities is low.

Risk to heritage resources from recreation user impacts varies depending on the resource involved. Heritage deposits located along Kurry Creek are, for the most part, buried. They are not easily recognized by the public. Risk to these sites from recreation user impacts is low.

Several sites which contain visible surface manifestations exist within this RAA. These sites are very visible and are subject to vandalism and/or site theft potential risk to this class of sites is high.

As for potential grazing impacts, under the current range management system, risk to the majority of heritage resources in the Pittsburg Landing area is relatively low.

Cumulative Effects

None of the alternatives contain management directions which would directly affect heritage resources in the Pittsburg Landing area.

Past public and private activities (e.g., livestock grazing, road construction, recreation facility construction) and the effects of natural agents have significantly impacted heritage resources in this RAA. Current livestock grazing, recreation use, and ongoing management activities would continue to impact heritage resources.

The Pittsburg area is the only Snake River RAA with high standard access and developed recreation opportunities. Pittsburg Landing would be one of the first RAAs to feel the effects of increased use resulting from higher demands for limited recreation opportunities. If this occurs, a concurrent increase in impacts to heritage resources would be likely.

15 Big Canyon – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

With the exception of the scenic river corridor, no systematic heritage resource surveys have been conducted in this RAA. Based on what is known about prehistoric and historic settlement patterns in Hells Canyon, numerous, significant, undiscovered heritage resources may exist in this RAA.

Under **Alternatives A, B, E-modified, and W**, FS Road 1805 would remain open and the risk to heritage resources would be the same as the existing situation. As the recreation developments at Pittsburg Landing become more well known, recreation off-road vehicle use levels in the Big Canyon area would increase concurrently, increasing the risk of vandalism. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be (and have been) undertaken during development of new or upgraded recreation facilities. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation. **Alternative N** would reduce access to this area and minimize risk to potential sites.

Cumulative Effects

Heritage resources near the mouth of Big Canyon Creek, and higher in Big Canyon have been impacted by past site theft and heavily damaged by vandals. The Big Canyon is very remote and difficult to monitor.

Undiscovered heritage resources may have been impacted to some extent by historic grazing activities and associated range developments. Grazing impacts have probably been compounded by natural erosion processes.

The Big Canyon Allotment has not been stocked for nearly two decades. If the allotment were restocked, cattle, being a more impactful class of livestock, pose a significant risk to undiscovered heritage resources. Increased recreation off-road vehicle use, which would likely occur in the next planning cycle, may also impact undiscovered heritage resources.

Of all the alternatives, only **Alternative N**, which closes the Big Canyon Road, has the potential to reduce impacts to heritage resources in this RAA.

26 Cottonwood – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Five sites have been documented in this RAA. No systematic surveys have been undertaken in this RAA; however, heritage site densities on the adjacent RAA suggest that additional undiscovered sites may be present.

Cumulative Effects

None of the alternatives contain management directions that would deviate from the existing situation, therefore no direct effects are associated with any alternative. The only impacts would be those direct and indirect effects associated with dispersed recreation use, livestock grazing, and natural processes.

27 Buckhorn/Cold Springs – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	2	2	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	5	5	5	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

This RAA contains high densities of heritage resources. Consequently, the primary threat to heritage resources is fire. Nothing in any alternative increases or reduces this threat. The risk to heritage resources from fire remains high.

Some types of heritage sites are not easily recognized by most recreation users. The primary threat to these sites occur when they occur in association with dispersed recreation use. When this occurs, easily recognizable artifacts may be collected. Motor vehicles and/or pack saddle stock on dispersed sites usually result in compaction and/or erosion of cultural deposits, if present.

Cumulative Effects

Numerous heritage sites have been destroyed by wildfire and past logging activities. Many heritage sites are associated with dispersed camps. They have been impacted by artifact collection and surface disturbance associated with motor vehicle and pack saddle stock use.

Alternative A, B, and W would maintain road and trail access and potential risk. However, site protection measures, e.g., fencing, hardened sites, interpretation, can be undertaken. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Alternative E-modified would close Teepee Butte and Wildhorse roads for a short period between late August to late November. While this would provide a higher degree of protection during the periods the road is closed, sites would still be susceptible to impacts when the road was open. **Alternative N** would close Teepee Butte and Wildhorse roads to all vehicles on a year-round basis. This would potentially reduce impacts to some sites.

28 Jim/Cherry Creek – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

The remnants of numerous heritage sites are located in Jim, Downey, Cook, Cherry, Knight, and Eureka creeks. Most are remote sites and accessible only by horseback or by foot, making them extremely difficult to monitor.

The direct effects to the above sites would continue to be those associated with site theft. Heritage sites in the above drainages have been the target of site theft in the past. Several heritage sites in Downey and Knight Creeks have recently been impacted by looters. Heritage resources in this RAA may again be the subject of site theft activities in the next planning cycle. Current risk to these sites is high.

Indirect effects to these resources are those associated with natural agents such as wildfire and erosion processes. Other indirect effects are associated with recreation use of the area. In some cases, heritage sites are popular dispersed camps. Concentrated use normally associated with dispersed camps may result in significant surface disturbance. As the surface is degraded, heritage deposits are deflated, resulting in compression, mixing, and/or obliteration of site integrity. When pack and saddle stock is involved, the risk increases dramatically.

Cumulative Effects

Heritage resources have been significantly impacted by past site theft activities and livestock grazing. Natural processes and human land use activities associated with recreation use and past management activities, both private and public, have had an impact on the resource. Intensive recreation activities are ongoing today and would continue into the future. A high probability exists that recreation use would increase over the next decade and that increased use would compound the effect to heritage resources.

Alternatives A, B, and E-modified, would maintain current access open to administrative use only and would not result in an increased risk to heritage resources. The sites would continue to be affected by impacts associated with existing recreation use levels. **Alternative W** would keep the Jim Creek and Cache Creek roads open to traffic which would result in an increased risk to heritage resources.

Alternative N would close both the Jim Creek and Cache Creek Roads to all motorized travel. This would greatly restrict access and would reduce the risk of site theft to known village sites in the lower reaches of Jim and Cherry Creeks.

29 Lower Imnaha – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	3	3	3	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	2	2	2	2	1
Total					
Total Risk Factor Score	7	7	7	7	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

The lower Imnaha River RAA contains extensive heritage sites. The majority of these sites are located immediately adjacent to the road. Numerous site bisected by the road have exposed site features in cut banks.

The HCNRA hosts 15 miles of the Nez Perce (*Ne-Mee-Poo*) National Historic Trail. This trail traces the route taken by the Nez Perce “non-treaty” bands (the five bands whose traditional homes lay outside the reduced reservation boundaries described in the Treaty of 1863) from Wallowa Lake, Oregon to the Bear Paw Battlefield near Chinook, Montana in their 1877 flight from their homelands while being pursued by the U.S. Army. The Trail includes a seven-mile segment over Lone Pine Saddle ending at Dug Bar. The Dug Bar site is the traditional crossing where the Chief Joseph Band forded the Snake River immediately before the 1877 Nez Perce War. The Dug Bar crossing was designated as part of the Nez Perce National Historic Park in 1992 (PL 102-576). A memorandum of understanding between the FS and the National Park Service allows for joint management of the Dug Bar site. This trail and site hold deep spiritual significance to the Nez Perce (Nimiipuu) people, especially descendents of the Joseph Band.

Administrative activities on the Historic Trail and at the Dug Bar crossing follow guidelines and strategies listed in the *General Management Plan for Nez Perce National Historical Park and Big Hole National Battlefield* (USDI 1997). Maintenance of the HCNRA portion of the Nez Perce National Historic Trail occurs annually for nonmotorized hiker/horse traffic as called for in the *Hells Canyon NRA Trails Management Plan* (USDA 1994). Condition/compliance monitoring to determine trail-maintenance needs will occur on a five-year rotation, beginning in 2000.

Alternative A would improve Dug Bar Road. Since the existing road bisects numerous heritage resources, significant road reconstruction has the potential to impact numerous heritage sites. This alternative would construct a Development Level 1 campground at Cow Creek and a Development Level 3 campground at Dug Bar. As with road reconstruction, it would be extremely difficult to construct a campground at either location without impacting heritage resources.

Alternatives B, E-modified, and W would improve the road, but to a lesser degree. They would construct either Development Level 1 or 2 campgrounds at Dug Bar and Cow Creek. Alternative W would construct a Development Level 3 site at Dug Bar. The risk remains high that any road reconstruction or campground construction project would impact significant heritage resources.

All alternatives except **Alternative N** contain direction that would improve access and provide upgraded and or new recreation facilities.

This would make the Lower Imnaha RAA a more attractive place to visit by providing additional recreation opportunities. This would probably result in increased use and a concurrent increase in the risk of direct and indirect effects to heritage resources. Site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the indirect effects of increased recreation use. However, protective measures would have little bearing on the direct effects of road and campground construction. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

All alternatives would administer activities on the Nez Perce Trail and at the crossing site at Dug Bar in accordance with guidelines and strategies in the comprehensive management plans and interpretive plans for the Nez Perce National Historic Trail and Nez Perce National Historic Park.

Cumulative Effects

Heritage resources have been significantly impacted by past road construction and maintenance, livestock grazing, site theft, public and private management activities, and natural erosion processes. Many sites are bisected by the Imnaha River Road and are exposed in road cuts and stream banks. These sites are highly visible and vulnerable to artifact collection and site theft. They are also highly susceptible to the effects of erosion and impacts from livestock.

All alternatives except **Alternative N** contain management directions that would have both direct and indirect effects on significant heritage resources.

30 Tryon/Deep Creek, 31 Somers Point/Salt Creek, 32 Lord Flat, 33 Mormon Flat, and 34 Horse Creek – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

The majority of these RAAs lie in areas designated wilderness or SPNM. (See **Chapter 3**, Recreation, for definitions of recreation opportunity settings SPNM, SPM, and RN.) Portions of RAAs 32, 33, and 34 lie in SPM or RN. Even those having some road access are relatively inaccessible.

RAAs 30 and 31 contain significant heritage resources. With the exception of relatively minor trail construction and maintenance, none of the alternatives contain management directions which would adversely affect these resources. The primary threat to these resources is associated with vandalism, artifact collection, and site theft. Given the remoteness and inaccessibility of most of these sites, they are difficult to monitor and/or protect from site theft activities.

RAAs 32 and 33 contain significant heritage resources. The primary risk to these sites is vandalism associated with recreation visitors, as well as, the effects of natural elements.

Cumulative Effects

The more significant heritage sites have been impacted by past site theft activities. Most sites in the above RAAs have also been affected by past livestock grazing, vandalism, and past public and private management activities, as well as natural erosion processes and/or wildfire.

Site theft would continue to be the foremost problem affecting heritage sites in Deep, Tryon, and Somers creeks. Livestock grazing, recreation stock in dispersed camps, vandalism, and natural erosion processes would continue to impact other categories of sites. These types of impacts would likely increase as recreation use in the area increases.

As noted above, none of the alternatives contain management directions which would increase the risk to heritage resources over existing levels.

Alternative A, B, and W would maintain road/trail access and potential risk. However, site protection measures, e.g., fencing, hardened sites, interpretation, can be undertaken. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Alternative E-modified would close Lord Flat Trail for a short period between late August to late November. While this would provide a higher degree of protection during the periods the road is closed, sites would still be susceptible to impacts when the road was open. However, any road closures in this area would make it more difficult to maintain and protect historic structures accessed by the Lord Flat Trail. **Alternative N** would close Lord Flat Trail to all vehicles on a year-round basis. This would potentially reduce impacts to some sites.

35 Imnaha – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	2	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	2	1	1	1	1
Total					
Total Risk Factor Score	7	5	5	5	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

This RAA contains a twenty-mile stretch of the Imnaha River corridor between the Palette Ranch to the south and the town of Imnaha to the north. This north-south corridor is contained by steep basalt break-lands which on the east side of the corridor rise to Summit and Grizzly ridges and on the west to Sheep Ridge.

Little, if any, systematic heritage survey has occurred in this RAA. Based on site densities in adjacent RAAs, little doubt exists that numerous significant undiscovered heritage resources may be present, particularly in the wild and scenic river corridor.

Alternatives A and W would develop a trailhead at or near the mouth of Crazyman Creek. The confluence of Crazyman Creek and the Imnaha River would be a high potential area for the occurrence of heritage deposits. Trailhead construction would have a direct effect on previously undiscovered heritage resources.

Cumulative Effects

The area most likely to contain significant undiscovered heritage deposits lies in the river corridor, the majority of which is on private land. The corridor has been subject to intensive farming and livestock operations for over one hundred years. Extensive road construction and other types of excavation have occurred. Most of these areas are likely to contain significant heritage resources.

The area continues to be the focus of intensive agriculture and it is unlikely that this situation would change in the next planning cycle. Under **Alternatives A and W** the Crazyman Trailhead project would directly impact significant heritage resources.

Alternatives B, E-modified, and N do not upgrade or add new facilities and, therefore, have the least potential to impact heritage resources.

36 Hat Point – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	6	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Intensive heritage surveys conducted for the Hat Point Road project failed to reveal significant or heritage resources. A similar situation exists between Memaloose Guard Station and Warnock Corral. Past investigations have failed to reveal other than isolated artifacts.

Alternative A would construct a Development Level 3 campground in the vicinity of Hat Point Lookout. Campground construction would directly impact undiscovered heritage deposits. Site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the indirect effects of increased recreation use. However, protective measures would have little bearing on the direct effects of road and campground construction. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

Alternatives A, B, E-modified, and W develop new trailhead facilities at Warnock Corral. Past investigations in the vicinity of Warnock Corral have failed to reveal significant heritage deposits. Therefore, trailhead construction would have little, if any, effect on heritage resources. Under **Alternatives B and E-modified** would replace existing facilities at Sacajawea Campground (Level A) and Saddle Creek Overlook and Picnic Area (Level B).

Alternative N would not construct new campground facilities but would construct new trailheads at road closures near Old Memaloose.

Cumulative Effects

The Hat Point area has received thousands of visitors yearly for the past decade. Some artifact collection has occurred from the few sites which do exist. Coupled with past road construction, livestock grazing, and intensive fire management activities, undocumented and documented sites have probably been significantly impacted.

Recreation use, livestock grazing, ongoing management activities, and natural erosion processes would continue to affect both documented and undiscovered heritage resources to some degree. **Alternative A** has the greatest potential to impact undocumented and undiscovered heritage resources. Site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the indirect effects of increased recreation use. However, protective measures would have little bearing on the direct effects of road and campground construction. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation. **Alternatives B, E-modified, and W** would not construct additional campground facilities and are less likely to impact heritage resources.

37 Saddle Creek, 38 Lookout Mountain, and 39 Buck Creek – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

RAAs 37, 38, and 39 are contiguous and located in the Hells Canyon Wilderness. Together they contain relatively few documented sites. All are bound on the east by the Snake River corridor where hundreds of significant heritage resources are located. Given the extremely high site densities in the river corridor, little doubt exists that large numbers of undiscovered heritage resources would be found in these areas.

Cumulative Effects

None of the alternatives contain management directions which would have direct effects on either documented or undiscovered heritage resources. **Alternatives A, E-modified and W** would improve access to Dug Bar and Warnock Corral which would increase use of these RAAs. **Alternative B** would allow the opportunity to construct approximately 1¼ miles of trail which would directly impact heritage resources as well as increase the use of the area. **Alternative N** would close the road from Old Memaloose to Lord Flat, which would have both a positive and negative effect on Heritage resources. Positive in that less vehicular access would allow for less disturbance for known and undiscovered heritage sites and negative in that maintenance of heritage facilities at Lord Flat would be more difficult. Ongoing activities, particularly livestock grazing, would continue to affect both categories of sites throughout the next planning cycle. Heritage resources would continue to be affected by natural processes, e.g., erosion, wildfire, etc.

40 McGraw – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	2	2	2	2	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	2	2	2	2	1
Total					
Total Risk Factor Score	6	6	6	6	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Direct and Indirect Effects

The Summit Ridge area in the McGraw RAA, contains relatively high densities of significant heritage sites. Some of these sites have high artifact densities at the surface and are either located adjacent to the road or proposed recreation developments associated with the Overlook II project. Consequently, this makes them highly susceptible to artifact collection.

FS Road 3965 is seasonally opened from PO Saddle to Saulsberry Saddle at the existing wilderness boundary. Preliminary investigations indicate that significant, heritage resources occur in this area. **Alternatives A, B, and W** would maintain current access to the boundary and continue potential risks to sites. **Alternative E-modified** would increase the seasonal closure by one month and decrease this risk while **Alternative N** would allow no motorized access past PO Saddle which would lower potential impacts to heritage resources.

Cumulative Effects

Both documented and undiscovered sites have been subjected to past timber harvest, livestock grazing, artifact collection, the effects of natural erosion processes, and wildfire.

With increased use associated with Hells Canyon Overlook I and II (until thresholds are achieved), recreation user impacts, principally artifact collection, can be expected to increase.

Cultural resource surveys have been conducted for the Hells Canyon Overlook II project and no direct effect to any documented sites should occur from project construction.

The Hells Canyon Overlook II project would improve access and construct new recreation facilities. Consequently, an increase in recreation use would occur in the Summit Ridge area. Increased use may result in indirect effects to both documented and undiscovered heritage resources in RAA 40 and adjacent RAAs. However, site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the adverse effects of increased recreation use. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation.

41 Upper Imnaha – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	3	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Upper Imnaha contains large numbers of heritage sites. Although intensive surveys have been conducted, little more than isolated artifacts have been found. This may be a result of alluvial processes which have buried sites. The area also contains several heritage sites where log structures are present.

The primary threat to heritage resources in this RAA is fire. Any alternative or project that would increase the use of fire along the Upper Imnaha River would pose a high risk to these resources. **Alternatives A, E-modified and W** would construct a new Development Level 4 campground along the Upper Imnaha River. This construction project would pose a moderate level of risk to undiscovered heritage resources.

Alternatives A, E-modified and W would improve access and would increase potential for impacts to heritage resources. **Alternative N** would reduce access which may have a positive effect on the impacts to heritage resources. **Alternative B** may also reduce access and would have a positive effect on the impacts to heritage resources.

Cumulative Effects

Past timber harvest activities and natural processes along the Imnaha River have reduced the numbers of heritage sites present. The use of prescribed fire, unless carefully executed, possesses a high risk to remaining sites. Campground construction would directly affect undiscovered heritage resources. Site protection measures, e.g., fencing, hardened sites, interpretation, may also be undertaken during development of new or upgraded recreation facilities. These protective measures may balance the indirect effects of increased recreation use. However, protective measures would have little bearing on the direct effects of road and campground construction. Measures would be designed to mitigate any direct impacts to heritage sites from project implementation. Given the low density of documented sites and the numerous heritage surveys, the risk is moderate.

42 North Pine Creek – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Numerous documented heritage resources exist in this RAA. However, none of the alternatives contain management directions which would directly affect these sites.

Cumulative Effects

The primary risk to these sites would continue to be those associated with ongoing management activities, namely timber harvest, livestock grazing, and the effects of natural processes.

50 and 51 Wild and Scenic Snake River – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Refer to the analysis for the Wild and Scenic Snake River corridor in the Snake River FEIS (USDA 1994, pages IV-99 to 100).					

99 Wild Rapid River – Direct and Indirect Effects

Units of Measure	Alternative A	Alternative B	Alternative E-modified	Alternative W	Alternative N
Surface disturbance	1	1	1	1	1
Removal or alteration of structural elements	1	1	1	1	1
Removal or alteration of mapped artifacts	1	1	1	1	1
Modification or alteration of the physical environment or setting	1	1	1	1	1
Total					
Total Risk Factor Score	4	4	4	4	4

Score Interpretation: 0-5 = Low, 6-8 = Medium, 9-12 = High

Prehistoric and historic sites have been recorded within the Wild Rapid River Corridor. Other prehistoric sites may exist based on evidence found during surveys. Several historic sites are eligible or potentially eligible for the National Register of Historic Places. The Nez Perce Tribe fished along the lower part of the Salmon River including tributaries to the Rapid River. There continues to be a strong connection between tribal members, Rapid River, and the associated salmon fishery. Prehistoric and historic cultural resources, and traditional use are outstandingly remarkable values for the Wild Rapid River. Refer to **Appendix K, Wild Rapid River Resource Assessment**, for further detailed information.

Cumulative Effects

Although numerous documented heritage resources exist in this RAA, none of the alternatives contain direction that would directly affect these sites. The primary risk to these sites would continue to be those associated with ongoing management activities including livestock grazing and the effects of natural processes.

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